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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/623,370

07/18/2003

Mark D. Tucker

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09/08/2006

SANDIA CORPORATION

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EXAMINER

ANTHONY, JOSEPH DAVID

ART UNIT

PAPER NUMBER

1714

DATE MAILED: 09/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/623,370

Applicant(s)

TUCKER

Examiner

Joseph D. Anthony

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07/25/05 as an amendment and RCE.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11, 17-21, 26-27, 29-31, 34-35 and 37-42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11, 17-21, 26-27, 29-31, 34-35, 37-42 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION AFTER FILING RCE**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Dependent claim 9 is deemed to be indefinite because it is directly dependent on independent claim 1. The problem here is that independent claim 1 requires that the formulation comprises a cationic hydrotrope, but dependent claim 9, which uses the restrictive preamble claim language of "consisting essentially of", has no cationic hydrotrope in the claimed listing of components found within the formulation.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 1-10, 17-21, 27, 29-31, 35, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tadros et al. WO 02/02192 A1 in view of Nakagawa et al. U.S. Patent Number 3,901,819.

WO teaches formulation for neutralization of chemical and biological toxants. The formulations may comprise mixtures of: 1) one or more of cationic surfactant, 2) long-chain fatty alcohol, 3) cationic hydrotrope, 4) an oxidant, such as hydrogen peroxide, 5) an alkali metal bicarbonate peroxide activator **(Examiner note: alkali metal bicarbonate reads on applicant's claimed "sor bent additive" of all independent claims and the carbonate salt of independent claim 17)**, 6) water soluble polymer, and 7) water, see abstract, examples and claims.

WO differ from applicant's claimed invention in that there is no direct disclosure to the further addition of a bleaching activator selected from the group consisting of O-acetyl, N-acetyl, and nitrile group bleaching activators.

Nakagawa et al. teach a composition for activating an inorganic peroxide bleaching agent comprising (A) an acetic acid ester of a monosaccharide, a disaccharide, a sugar alcohol, an internal anhydride of a sugar alcohol, or erythritol, said ester having at least 2 ester groups on the adjacent carbon atoms, and (B) an acetic acid ester of a polyhydric alcohol having a melting point not higher than about 30.degree.C., the weight ratio of the components being within the range of from 1/9 to 9/1. These are O-acetyl type bleach activators. Nakagawa et al also teaches the conventional use of low water soluble tetracetyl ethylene diamine (TAED) which is a N-acetyl type bleach activator, see abstract, column 2, lines 1-29, Tables, and claims.

It would have been obvious to one having ordinary skill in the art to use the disclosure of Nakagawa et al to O-acetyl and N-acetyl bleach activators for inorganic peroxides, such as percarbonates, as motivation to actually add them as bleaching activators to the chemical and biological neutralization formulations taught by WO for the oxidation enhancement benefits such activators would provide for WO's oxidizing reactive component and the formulations as a whole.

5. Claims 11, 26, 34, and 38-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tadros et al. WO 02/02192 A1 in view of Nakagawa et al. U.S. Patent Number 3,901,819 and further in view of Huth et al. U.S. Patent Number 6,448,062.

Tadros et al. and Nakagawa et al. have been described. This rejection builds on the rejections made above. Tadros et al. differ from applicant's claimed invention in that there is no direct disclosure to the further addition of polyol drying agents such as sorbitol.

Huth et al. teach a composition for simultaneous cleaning and decontaminating a device. The composition is a per-compound oxidant in an amount effective for decontaminating the device and an enzyme in an amount effective for cleaning the device. The device may be a medical device such as an endoscope or kidney dialyzer and a plurality of devices can be cleaned using the same composition. The composition may additionally contain a corrosion inhibitor in an amount effective to prevent corrosion of a metal, a chelator, a buffer, a dye and combinations thereof, see abstract, examples

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and claims. Huth et al directly discloses that it is well known in the art to use polyols, such as sorbitol, as drying agents in decontamination compositions, see column 20, lines 26-41.

It would have been obvious to one having ordinary skill in the art to use the disclosure of Huth et al to polyol drying agents for decontamination formulations as motivation to actually added polyols, such as sorbitol, to the decontamination formulations taught by the combination of Tadros et al. in view of Nakagawa et al. for the benefits that such drying agents would effect in said decontamination formulations.

6. Claims 27 and 29-31 are rejected under 35 U.S.C. 103(a) as being obvious over Kresanoski U.S. Patent Number 3,852,210 in view of Nakagawa et al. U.S. Patent Number 3,901,819.

Krezanoski teaches a stable liquid concentrate comprises about 0.1-50% of an active oxygen yielding compound, about 0.5-50% of a sulfobetaine or betaine surfactant, about 1-50% of a nonionic polyoxyethylene-polyoxypropylene block copolymer surfactant, and 10-80% water. The concentrate exhibits a loss of active oxygen of as little as 6.7% after 675 days and has utility as a bleaching and cleaning composition. The composition can be diluted with pure or ordinary tap water. See abstract and Example 1. Krezanoski differs from applicant's claimed invention in the following ways: 1) there is no direct disclosure to the further addition of a bleaching activator selected from the group consisting of O-acetyl, N-acetyl, and nitrile group

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bleaching activators, and 2) there is no direct disclosure to the further addition of additives such as sodium sulfate and potassium carbonate.

Nakagawa et al. teach a composition for activating an inorganic peroxide bleaching agent comprising (A) an acetic acid ester of a monosaccharide, a disaccharide, a sugar alcohol, an internal anhydride of a sugar alcohol, or erythritol, said ester having at least 2 ester groups on the adjacent carbon atoms, and (B) an acetic acid ester of a polyhydric alcohol having a melting point not higher than about 30.degree.C., the weight ratio of the components being within the range of from 1/9 to 9/1. These are O-acetyl type bleach activators. Nakagawa et al also teaches the conventional use of low water soluble tetracetyl ethylene diamine (TAED) which is a N-acetyl type bleach activator, see abstract, column 2, lines 1-29, Tables, and claims. Nakagawa et al also directly teaches the use of sodium sulfate and potassium carbonate in Example 3. Additional inorganic salts can also be used see column 2, lines 39-45. The directly disclosed inorganic peroxide bleaching agents are hydrogen peroxide, sodium perborate, sodium percarbonate, sodium peroxyphosphate and sodium peroxysilicate, see column 2, lines 46-52.

It would have been obvious to one having ordinary skill in the art to use the disclosure of Nakagawa et al to O-acetyl and N-acetyl bleach activators for inorganic peroxides, such as percarbonates, as motivation to actually add them as bleaching activators to the chemical and biological neutralization formulations taught by Krezanoski for the oxidation enhancement benefits such activators would provide for Krezanoski's oxidizing reactive component and the formulations as a whole.

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It would also have been obvious to one having ordinary skill in the art to use the disclosure of Nakagawa et al. to the use of sodium sulfate (see example 3) or sodium percarbonate as a functional equivalent of sodium perborate (see column 2, lines 46-52) as strong motivation to actually use one or both of these compounds in the composition taught by Krezanoski. The further addition of a potassium carbonate salt in lieu of sodium carbonate salt (see applicant's claim 30) is deemed to be obvious over the Nakagawa et al. use of potassium carbonate in example 3 and in light of column 2, lines 40-41.

7. Claims 27 and 29-31 are rejected under 35 U.S.C. 103(a) as being obvious over Hardy et al. U.S. Patent Number 4,536,314 optionally in view of Nakagawa et al. U.S. Patent Number 3,901,819 and/or Hardy et al. U.S. Patent Number 4,853,143.

The Hardy et al patent teaches bleach activator, bleach and detergent compositions comprising: (a) a peroxyacid bleach precursor having the general formula I "Ac—L" wherein Ac is the acyl moiety of an organic carboxylic acid comprising an optionally substituted, linear or branched C.sub.6 -C.sub.20 alkyl or alkenyl moiety or a C.sub.6 -C.sub.20 alkyl-substituted aryl moiety and L is a leaving group, the conjugate acid of which has a pKa in the range from 4 to 13, (b) an antioxidant and (c ) surfactant(s) such as a cationic surfactants (e.g. C14 alkyl trimethyl ammonium bromide). The compositions combine excellent stability, substrate-safety, water-dispersibility, granulometry and detergency performance, see abstract, columns 2-8, claims column 13, lines 48-59, column 14, line 64 to column 15, line 25, column 26,



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lines 17-20 and Examples 3-5, 7-8 and 24. Please note that Hardy et al's example 24 teaches the use of silicate, carbonate and sodium sulphate. Also note that Hardy et al's example 25 teaches the use of silicate, zeolite A, carbonate and sodium sulphate.

The rejection over Hardy is made by way of obviousness because there is no direct teaching (by way of a specific example) that contains all of applicant's claimed components. Nevertheless, it would have been obvious to one having ordinary skill in the art to use the broad disclosure of the patent as motivation to actually make a composition that comprised all of applicant's claimed components since all such components are suggested by the patents to be used in combination with each other. In the alternative Hardy can be combined with Nakagawa et al. for Nakagawa et al.'s direct disclosure of bleach precursors/activators that read directly on applicant's claimed bleaching activators. Likewise Hardy et al. '143 can be combined with Hardy et al. '314 for Hardy et al's '143 more specific disclosure to the use of benzyl cationic surfactants, see column 11, lines 3-43.

### ***Response to Arguments***

8. Applicant's arguments filed 07/26/06 with the amendment and RCE, have been fully considered but are not persuasive to put the application in condition for allowance for the reasons set forth above. Additional examiner comments are set forth next.

The prior-art rejections made over Tadros et al. WO 02/02192 A1 in view of the secondary reference(s) remain in effect since the effective filing date of the present application S.N. 10/623,370 is deemed to be the actual filing date of the application

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which is 07/18/2003, and NOT the filing date of Provisional Application Serial Number 60/397,424 which is 07/19/2002. The examiner totally rejects applicant's arguments that the Provisional Applicant's statement of: *"This TA presents a convenient method to formulate DF-200 for practical use. It uses a highly sorbent material (sorbitol-a sugar alcohol) to 'dry out' the liquid peroxide activator (propylene glycol diacetate or glyderol diacetate). The activator becomes a free flowing powder which is more convenient to handle in the field"*, provides support for the full scope of all of applicant's claimed and disclosed species of "sorbent additives" as set forth in pending Application S.N. 10/623,370. The provisional application's disclosure of: *"a highly sorbent material (sorbitol-a sugar alcohol) to 'dry out' . . ."*, clearly enables only sorbitol as a highly sorbent material. If applicant had actually intended the (sorbitol-a sugar alcohol) to be a specific non-limiting example of a "sorbent material" in the Provisional Application, applicant would have written the above statement as followed:-- *It uses a highly sorbent material (e.g. sorbitol-a sugar alcohol) to 'dry out' out' the liquid peroxide activator (propylene glycol diacetate or glyderol diacetate)--*. Furthermore, nowhere in the Provisional Application is there any disclosure to any other species, besides sorbitol, of a material that is disclosed to be "highly sorbent material". The truth of the matter is that the phrase "a highly sorbent material" is nothing other than a functional description of the sorbitol species. Likewise, the phrase "a sugar alcohol" was used only to describe the class of compounds that sorbitol falls within. Sorbitol was thus NOT an example of a highly sorbent material, it was rather the only highly sorbent material enabled and disclosed by applicant's Provisional Application. Applicant's argument that applicant

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used similar phrases in the specification of S.N. 10/623,370 to indicate examples of highly sorbent materials is not well taken either. Applicant's attention is drawn to page 55, line 28 of applicant's specification wherein the following phrase is set forth: "1) place the sorbent additive (e.g. sorbitol powder) in a mixing vessel;" Notice that the said phrase used the term "e.g." to indicate that sorbitol was a specific example of a sorbent additive. Likewise, applicant's attention is drawn to page 56, lines 24-25 of applicant's specification wherein the following phrase is set forth: ", the amount of sorbent added (e.g. 40 g of sorbitol/SORBIGEM<sup>™</sup>) is . . ." Notice again that the said phrase used the term "e.g." to indicate that sorbitol was a specific example of a sorbent material added.

Please note that new claims 40 and 42 are rejected above, even though they require that the highly sorbent additive is sorbitol, because applicant's "Statement of Common Ownership under 35 USC 103(c)", filed on 11/08/05, does not make any mention to the WO 02/02192 A1 reference. As such, the prior-art rejection over this reference remains.

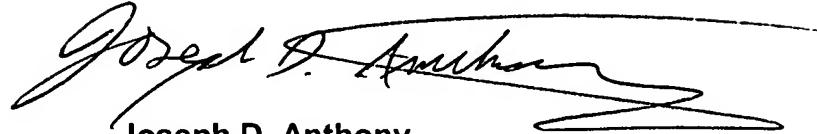
Finally, applicant's Terminal Disclaimers have been accepted by the PTO.

### ***Examiner Information***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Joseph D. Anthony whose telephone number is (571) 272-1117. If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Vasu Jagannathan, can be reached on (571) 272-1119. The centralized FAX machine number is (571) 273-8300. All other papers received by FAX will be

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treated as Official communications and cannot be immediately handled by the Examiner.

A handwritten signature in black ink, appearing to read "Joseph D. Anthony", with a long horizontal flourish extending to the right.

**Joseph D. Anthony**  
**Primary Patent Examiner**  
Art Unit 1714

9/3/06